

In re Patent Application of:  
**NEWTON ET AL.**  
Serial No. **10/827,004**  
Filing Date: **April 19, 2004**

---

**REMARKS**

Claims 13-24 remain in this application. Claims 1-12 and 25-37 have been previously cancelled. Claim 13 has been amended.

Applicants thank the Examiner for the detailed study of the application and prior art and notes the rejection of all claims as anticipated by U.S. Patent No. 5,619,061 to Goldsmith et al. (hereinafter "Goldsmith").

Applicants have amended the claims to place this case in condition for allowance. The claims recite more than a radio frequency switch circuit that includes radio frequency inputs and outputs, a control input, a microelectromechanical switch, a ceramic substrate, a low loss photodefinable dielectric planarizing layer and photodefined conductor formed into a switch. Independent claim 13 now recites a multilayer ceramic substrate having embedded microstrip and interconnect structures among different layers.

This type of structure, for example, is used in thick film materials. Typically, thick film materials have not been used in the design of microelectromechanical structures used in radio frequency and microwave applications.

As to Goldsmith, it may disclose a micromechanical microwave switch with integration of RF lines and multiple throw switches, but it is constructed by a simple substrate 41, such as a silicon dioxide film, which is a few micrometers thick and positioned on a silicon die. Transmission line microstrip segments 402, 403, and control electrodes 405, 406 are positioned on this substrate surface and within an opening in an insulating spacer or layer 410. A dielectric membrane 412 lies on the spacer 410 and spans the opening. A metal

In re Patent Application of:

**NEWTON ET AL.**

Serial No. **10/827,004**

Filing Date: **April 19, 2004**

---

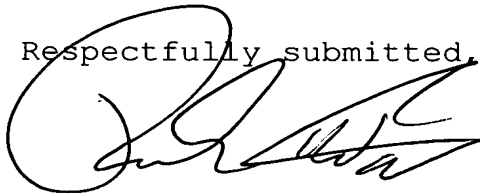
plate 414 and metal film 415 are attached to the upper surface of the membrane 412 and provide for signal conducting and mechanical deflection for the switching action, respectively.

The metal film 415 and electrodes 405, 406 form an air gap capacitor to deflect the membrane 412 when charged.

Indeed, Goldsmith teaches away from the claimed invention as presented in this Amendment. As now presented, the ceramic substrate is formed as a multilayer ceramic substrate having embedded microstrip and interconnect structures among different layers. Goldsmith teaches opposite and is directed to a thin layer used for defining the microelectromechanical structure instead of the thick film and similar structure as now claimed with this Amendment.

Applicants contend that the present case is in condition for allowance and respectfully requests that the Examiner issue a Notice of Allowance and Issue Fee Due. If the Examiner has any questions or suggestions for placing this case in condition for allowance, the undersigned attorney would appreciate a telephone call.

Respectfully submitted,



---

RICHARD K. WARTHER

Reg. No. 32,180

Allen, Dyer, Doppelt, Milbrath  
& Gilchrist, P.A.

255 S. Orange Avenue, Suite 1401

Post Office Box 3791

Orlando, Florida 32802

Phone: 407-841-2330

In re Patent Application of:  
**NEWTON ET AL.**  
Serial No. **10/827,004**  
Filing Date: **April 19, 2004**

---



**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: **MAIL STOP AMENDMENT,**  
**COMMISSIONER FOR PATENTS, P.O. BOX 1450, ALEXANDRIA, VA**  
**22313-1450**, on this 27<sup>th</sup> day of October, 2005.

Julie Lalan